

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of the claims in this application.

LISTING OF THE CLAIMS:

1. (Currently amended) A strain sensor which consists of a polymer that has been irradiated with less than 4×10^{15} ions/cm² to produce strain dependent electrical properties with conducting tracks deposited onto the treated portion to enable the sensor to be connected to an external electric circuit.
2. (Original) A strain sensor as claimed in claim 1 in which the polymer is a polyimide film.
3. (Currently amended) A method of forming a strain sensor from a polymeric film which includes the steps of selectively irradiating a surface of the polymer with high energy radiation at an intensity less than 1×10^{15} ions/cm² to produce strain dependent electrical properties to change the composition of the polymer and increase the electrical conductivity in selected portions of the surface.
4. (Original) A method as claimed in claim 3 in which the high energy radiation carbonizes the polymer to form conductive particles in the polymer.
5. (Original) A method as claimed in claim 3 in which high energy ions impinge on a polymer film containing precursor metal compounds, such that decomposition of the precursor leads to nucleation of conducting metal particles.
6. (Previously presented) A method as claimed in claim 3 in which the polymer is a polyimide.

7. (Previously presented) A method as claimed in claim 3 in which conducting tracks are deposited onto the treated polymer to enable the device to be connected to an external electric circuit.
8. (Currently amended) A strain sensor made by the method of any one of claim 3.